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10/052,232	01/15/2002	Monte C. Magill	OUTT-009/02US	2993

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EXAMINER

SALVATORE, LYNDIA

ART UNIT PAPER NUMBER

1771

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/052,232

Applicant(s)

MAGILL ET AL.

Examiner

Lynda M Salvatore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-92 is/are pending in the application.
- 4a) Of the above claim(s) 68-92 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-14, 24-30, 33-62 and 64 is/are rejected.
- 7) ☒ Claim(s) 5, 15-23, 31, 32, 63, 65-67 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☒ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-67 drawn to the multi-component fiber classified in class 428, subclass 357+.
  - II. Claims 68-75, drawn to method for making a multi-component fiber, classified in class 264, subclass various.
  - III. Claims 76-92, drawn to a fabric, classified in class 442, subclasses 181+ and 327+.

2. The inventions are distinct, each from the other because:

Inventions of Group I and Group II are related as process of making and product made and are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the fibers can be made by another and materially different process such as solvent spinning with a particulate phase change material incorporated therein.

Inventions of Group I and III are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a fiber component in fiber reinforced components such as those used in building and construction application and the inventions are deemed

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patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Inventions of Group II and III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the fabric can be made using single component fibers.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Cliff Liu on July 21<sup>st</sup>, 2003 a provisional election was made with traverse to prosecute the invention of multi-component fiber claims 1-67.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 68-92 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

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application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. Applicant is advised that the reply to this requirement to complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4, 6-10, 24-30, 33-42, 46, 48,49, 51-56 and 60-62,64 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al., US 5,153,066.

The patent issued to Tanaka et al., teaches microencapsulating a temperature sensitive color changeable material and imbedding said microcapsules into the core polymer of a conjugate filament (Abstract, figures 1-6 and Column 1, 59-63). Tanaka et al., teaches various conjugate structures including the island-in-sea and sheath/core configurations (Figures 1-6). Tanaka et al., also teaches a composite fiber denier of 5 or more (Column 8, 9-15). The thermally color changeable material comprises three elements, an electron donating chromatic organic compound, an electron accepting organic compound and a compound as a reaction medium (Column 3, 1-5). The thermally color changeable material takes the form of solid fine particles (Column 3, 5-8). Suitable electron donating compounds include polyaryl carbinols, lactams, indolines, and diaryl phthalides (Column 3, 40-43). Suitable electron accepting

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compounds include phenolic compounds, metal salts of phenolic compounds, aromatic carboxylic acids, and triazole compounds (Column 3, 44-48). Suitable reaction medium compounds include alcohols, esters, ethers, ketones, and amides (Column 3, 50-52). In addition, the thermally color changeable material may further comprise a ultraviolet absorber such as benzotriazole (Column 7, 17-23). Tanaka et al., teaches that the imbedded micro-capsules are protected by a protective polymer sheath which may comprise polyesters such as terephthalic acid or polyamides (Column 4, 50-69 and Abstract). The polymer comprising the imbedded microcapsules may comprise polyethylene, polypropylene, or polyamides (Column 4, 9-16 and Abstract). The relative ratios of the amounts of core polymer to the amount of sheath polymer are 20:80 to 95:5 respectively (Column 7, 12-16). Tanaka et al., teaches mixing 30 parts thermally color changeable material with polyamide in examples 6 and 7 (Column 10). The composite fiber comprising the thermally color changeable microcapsules are suitable in the treatment of a woven or knitted fabric (Column 6, 44-50).

***Claim Rejections - 35 USC § 102/103***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 10-15, 40-51 and 54-58 are rejected under 35 U.S.C. 102(b) as being anticipated or, in the alternative, under 35 U.S.C. 103(a) as obvious over by Bryant et al., US 5,366,801

The patent issued to Bryant et al., teaches a polymer binder comprising microencapsulated temperature phase change material (Column 3, 20-25). The phase change materials include paraffinic hydrocarbons such as those shown in table 1 (Column 3, 50-65). Suitable binder forming polymers include rubber, acrylic, polyurethane, polyvinyl alcohol, and silicone (Column 3, 25-31). Bryant et al., teaches coating the binder containing microcapsules on variety of base materials that include fibers or formed fabrics (Column 4, 25-30). With regard to the sheath/core limitations, Bryant clearly illustrates in figures 4 and 5, fully surrounding the fiber with a coating of the binder to form a sheath around the core fiber (Figures 4 and 5).

With regard to the composition of the fiber material, Bryant et al., does not explicitly teach a specific fiber composition, however, it is well known in the art that fibers can be made from various polyolefin or polyester materials. Thus, it would be obvious to one having ordinary skill in the art to form the fiber from synthetic polymers as a function of the desired end use of the fabric.

With regard to the temperature regulating absorption and release properties recited in claims 43 and 44, Bryant et al., does not explicitly teach the claimed temperature ranges, however, it is reasonable to presume that said properties are inherent to the invention of Bryant et al. Support for said presumption is found in the use of like materials (i.e., paraffinic hydrocarbons) and the use of like processes such as microencapsulating, which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594

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In addition, the presently claimed temperature regulating absorption and release properties would obviously have been present once the Bryant et al., product is provided. *In re Best*, 195 USPQ 433

### ***Allowable Subject Matter***

11. Claims 5, 15-23, 31,32, 63 and 65-67 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Specifically, the prior art of record fails to teach adding additional additives such as those recited in claims 5. The prior art of record also fails to teach embedding the microencapsulated phase changing materials in the core and sheath polymers or having a mixture of phase changing materials in the island component of the island-in-sea configuration. Presently, the prior art only teaches a conjugate fiber, wherein one of the polymer matrices comprises the encapsulated materials. Therefore, absent such teachings and motivation to combine references to form an obvious type rejection, said claims are found to be allowable over the prior art record.

### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M Salvatore whose telephone number is 703-305-4070. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the




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organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

ls

August 11, 2003



TERREL MORRIS  
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